**Montana Board of Oil and Gas Conservation**
**Environmental Assessment**

**Operator:** Continental Resources, Inc.
**Well Name/Number:** Edger 2-34H
**Location:** SW SW Section 34 T26N R52E
**County:** Richland **, MT; Field (or Wildcat)** W/C (Bakken Horizontal)

## Air Quality

(possible concerns)
Long drilling time: No, 30 to 40 days drilling time.
Unusually deep drilling (high horsepower rig): No triple derrick drilling rig to drill to 18,798'MD/8,732'TVD a single lateral horizontal Bakken Formation well.
In/near Class I air quality area: Nearest Class I air quality area is the Fort Peck Indian Reservation, about 8 miles to the north across the Missouri River.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:
X Air quality permit (AQB review)
__ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:_____

Comments: No special concerns – using triple rig to drill a 18,798'MD/8,732'TVD single lateral horizontal Bakken Formation well test. If there is an existing pipeline for gas in the area and gas can be gathered or if no gathering system nearby gas can be flared under Board Rule 36.22.1220.

## Water Quality

(possible concerns)
Salt/oil based mud: Yes, oil based invert drilling fluid system on the mainhole and saltwater for the horizontal lateral. Freshwater and freshwater mud system on surface hole,
High water table: No high water table anticipated at this surface location.
Surface drainage leads to live water: Yes, closest drainage is an unnamed ephemeral tributary drainages to West Charlie Creek, about 1/4 of a mile to the north and ¼ of a mile to the east from this location.
Water well contamination: No, nearest water wells are about 1/4 of a mile to the northwest, about ¾ of a mile to the southeast, all other wells are 1 mile and further from this location. Depth of these water wells range from 22' to 290'. Operator states 918' of surface casing will be set. Surface hole must be drilled with freshwater and freshwater mud. Recommend that surface casing will be set at 1000' and cemented to surface.
Porous/permeable soils: No, silty sandy clay soils.
Class I stream drainage: No Class I stream drainages in the area of review.

Mitigation:
X Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
X Closed mud system
X Off-site disposal of solids/**liquids** (in approved facility)

__ Other: _____

Comments: 1000' of surface casing cemented to surface adequate to protect freshwater zones.

**Soils/Vegetation/Land Use**

(possible concerns)

Steam crossings: No stream crossings anticipated, only crossing ephemeral drainages.

High erosion potential: Yes possible high erosion potential on cut slope and fill slope, moderate cut, up to 28.2' and moderate fill, up to 11.8', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: Yes, a very large wellsite, 500'X320' to accommodate a single welliste, Edgar 2-34H.

Damage to improvements: Slight, surface use grassland.

Conflict with existing land use/values: Slight

Mitigation

__ Avoid improvements (topographic tolerance)
__ Exception location requested
X Stockpile topsoil
__ Stream Crossing Permit (other agency review)
X Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
__ Other _____

Comments: Will use existing county road, #143. About 5361' of new access road will be built into this location, from the county road. Drill cutting will be disposed of in the lined cuttings pit. Oil based invert drilling fluids will be recycled. Completion fluids will be haul to a commercial disposal. Lined cuttings pit will be backfilled when dry with a minimum of 4' of cover over the cuttings. No special concerns.

**Health Hazards/Noise**

(possible concerns)

Proximity to public facilities/residences: Closest residences are about 1.125 miles to the north northeast and about 1.5 miles to the northeast from this location.

Possibility of H2S: Slight chance of H2S.

Size of rig/length of drilling time: Triple drilling rig/short 30 to 40 days drilling time.

Mitigation:

X Proper BOP equipment
__ Topographic sound barriers
__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
__ Other:_____

Comments: Adequate surface casing and operational BOP should mitigate any problems. No concerns

**Wildlife/recreation**

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No
Threatened or endangered Species: Species identified as threatened by the USFWS are Pallid Sturgeon, Interior Lease Tern, Piping Plover and Whooping Crane. Species listed as candidate species are the Greater Sage Grouse and Sprague's Pipit. NH tracker website for this Township and Range lists three (3) species of concern: Townsend's Big-eared Bat, Sprague's Pipit and Sage Thrasher.

Mitigation:
__ Avoidance (topographic tolerance/exception)
X Other agency review (DFWP, federal agencies, DSL)
__ Screening/fencing of pits, drillsite
__ Other:_____
Comments: Private surface grassland. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands. Federal minerals will be intersected by the horizontal lateral, BLM will do a surface EA and also issue a drilling permit.

**Historical/Cultural/Paleontological**

(possible concerns)
Proximity to known sites: None identified.
Mitigation
__ avoidance (topographic tolerance, location exception)
X other agency review (SHPO, DSL, federal agencies)
__ Other:_____
Comments: On private surface grassland. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands. Federal minerals will be intersected by the horizontal lateral, BLM will do a surface EA and also issue a drilling permit.

**Social/Economic**

(possible concerns)
__ Substantial effect on tax base
__ Create demand for new governmental services
__ Population increase or relocation
Comments: No concerns.

**Remarks or Special Concerns for this site**

Well is a 18,798'MD/8,732'TVD a single lateral horizontal Bakken Formation well test.

**Summary: Evaluation of Impacts and Cumulative effects**

No long term impact expected, some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki
(title:) Chief Field Inspector
Date: May 26, 2012

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Richland County water wells
(subject discussed)
May 26, 2012
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES, Richland County
(subject discussed)

May 26, 2012
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T26N R52E
(subject discussed)

May 26, 2012
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection: _____